

# Exhibit A

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

A. SCHULMAN, INC.,	)	Case No.: 1:15-cv-01760-PAG
	)	
Plaintiff and Counter-Defendant	)	Judge Patricia A. Gaughan
	)	
v.	)	
	)	
POLYONE CORPORATION and POLYONE DESIGNED STRUCTURES AND SOLUTIONS LLC	)	<b>L.P.R. 4.2(c) DECLARATION OF DR. CYNTHIA GOSSELIN IN SUPPORT OF POLYONE'S PROPOSED CLAIM CONSTRUCTION</b>
	)	
Defendants and Counter-Plaintiffs.	)	

I, Dr. Cynthia Gosselin, under penalty of perjury, hereby declare as follows:

1. I am a materials engineer, with a concentration in polymers and non-metallic coatings. I graduated from Rensselaer Polytechnic Institute with a BS in Materials Engineering and from the University of Cincinnati with both an MS and PhD in Materials Science. My graduate research theses included the determination of the failure modes and materials solutions for ultrahigh molecular weight polyethylene for hip implants (MS) and the structure-property relationships of a silane adhesion promoter for aircraft panels (PhD). I also hold a certificate from the Massachusetts Institute of Technology through the Sloan School in Systems Engineering. Working at Armco/AK Steel for 15 years, I developed significant expertise in the area of painted and prepainted steel for all markets. This included extensive experience in conducting product research and development laboratory testing including Distinctness of Image ("DOI") analysis. I hold process patents for the application of thin film organic coatings on steel, both as temporary lubricating and protective agents and as permanent corrosion inhibiting systems. These materials were required to pass qualification testing within all markets for commercialization (including automotive) and included, among a myriad of other testing, DOI

analysis. In addition, I have served as Chief Engineer in the Materials Laboratory at Arvin Industries/ArvinMeritor where extensive testing and product development was conducted for worldwide automotive exhaust systems. For over 15 years, I have been active in the American Society for Testing and Materials International (ASTM) and currently serve as the Chairman of Committee D01- Paint and Related Coatings, Materials and Applications, as the Subcommittee Chair for D01.53 – Coil Coated Products and as an officer in Committee A05 – Metallic Coated Iron and Steel Products. These committees govern the standards applicable to the materials and methods surrounding post and prepainted products, plastics, composites and metallic coated substrates. Thirty four years of experience in the field of materials engineering includes significant experience in structure property relationships and testing and characterization of polymer/metal systems as these disciplines relate to commercialization of product for many industries and markets. Finally, I have developed additional expertise in emission control for diesel engine systems, for which I am one of the patent holders for a diesel emission fluid pump. A true and correct copy of my Curriculum Vitae is attached hereto as Exhibit 1 to this Declaration.

2. I understand that A. Schulman, Inc. ("Plaintiff" or "ASI") has filed a lawsuit against PolyOne Corporation and PolyOne Designed Structures and Solutions LLC ("PolyOne") for patent infringement of certain claims of U.S. Patent Nos. 8,007,902 ("the '902 patent") and 8,182,906 ("the '906 patent") (collectively "the asserted patents") to Dennis Smith.

3. I have been retained by PolyOne to aid in the understanding of several features described in the asserted patents and the meaning of certain claim terms in the asserted patents.

4. I make this declaration based at least in part on my education in polymer materials science, my experience in testing the organic and organic/metallic systems used for many

applications, including automotive body parts and the understanding of the characteristics and testing specifications associated with the application of those materials for various end uses. I am being compensated for this work.

**The "DOI" Claim Limitations are Indefinite**

5. I understand the term "DOI" to mean "Distinctiveness of Image", which is an important gloss appearance attribute that contributes to the perception of quality. DOI can be defined as the quantification of the deviation of the direction of light propagation from the regular direction by scattering during transmission or reflection. DOI is sensitive to even subtle scattering affects such as haze, degree of orange peel or microscopic wrinkles. Testing should be conducted on planar rigid surfaces while characterizing the visual appearance of high gloss surfaces (e.g. auto body panels). In the automotive industry, DOI has been recognized as an attribute that characterizes coatings and painted surfaces. In particular, DOI can refer to the sharpness or clarity of the image produced by reflection of an object onto a surface. If the reflection of an object on a surface appears sharp and clear, the surface has a high DOI and conversely, if the reflection is blurry and of low contrast, it has a low DOI.

6. I am familiar with and have reviewed the asserted patents including the claims, specification, and file histories as well as the technology involved. I understand that the asserted claims from the '902 and '906 patents include the following limitations: "a DOI of 70 or greater" or "a DOI of 85 or greater" (collectively "the DOI limitations").

7. I have been informed that a patent's specification must contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and that the patent

specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. In my expert opinion, the DOI limitations are indefinite as applied to the claims of the '902 and '906 patents because the patents provide no description or any information concerning which of the many existing DOI test methods and devices to use in the evaluation.

9. There are many different techniques, devices, methods and standards governing the testing of DOI. Use of these different techniques, devices, methods or standards can affect test results, including the DOI value assigned to a given test sample. This is important because actual scale values obtained from different methods often will not agree, but rather trend similarly to each other depending upon the technique utilized. In many cases the technique used is industry specific or industry preferred. In other words, a 70 rating with one method will not necessarily be a 70 rating when using an alternative method. Each test is scaled upon independent criteria, different calibration curves or different standardized samples, utilizing different physical principles to arrive at a DOI value.

10. There are various methods for measuring DOI. I will describe five different methods of measuring DOI below. I will also discuss six different standards that govern DOI testing protocols below. Some of the methods include the "Goniometric Method" and different variations thereof. There are also the Optical Profilometer and Visual Inspection Methods.

11. The Goniometric Method measures DOI through use of a narrow aperture for a light source and that uses a device to make measurements at specular and slightly off-specular angles (+ or – 0.3 degrees). The values that are obtained are combined to provide a calculated DOI value. This method requires very narrow source and receptor aperture angles to make the measurement.

12. A different variation of the Goniometric Method involves measuring DOI by using light that is transmitted through a narrow slit and is projected onto a specimen. The reflected image intensity is measured through a sliding combed filter to provide a value of image clarity.

13. A third variation of the Goniometric Method is performed by measuring DOI by projecting a pattern onto the specimen and then measuring the reflected image intensity to provide a value of image clarity.

14. The Optical Profilometer method involves measuring DOI by using an instrument with a narrow-beam light source (such as a solid state laser diode) to scan over a sample to create an optical profile of the surface structure. From this profile, various DOI measurements at different structure size scales are obtained using bandpass filtering, often measuring different dimensions of waviness on a micro scale.

15. In contrast to instrumental methods, including those described above, the Visual Inspection Method involves measuring DOI by projecting a pattern of features of decreasing size (such as circles/rings, the small letter e or capital letter C) onto a sample surface and having a user selectively judge the smallest resolvable feature in the reflected image. Accordingly, there is no inherent or direct relationship between the results obtained instrumentally and results obtained based on the judgement of an observer.

16. There are also many different standards that govern DOI testing protocols including: ASTM D 5767 – 95, ASTM E430-11, GM-9101P, GMW15777-2016 (superseded GM 4348M), GM Test Specification TM-204-M, and GM Test Specification GM-204-M. These standards set forth the use of different approved inspection devices and testing protocols for measuring DOI.

17. ASTM D 5767 – 95 (Reapproved 2012), entitled "Standard Test Methods for Instrumental Measurement of Distinctness-of-Image Gloss of Coating Surfaces" and ASTM E430-11 "Standard Test Methods for Measurement of Gloss of High-Gloss Surfaces by Abridged Goniophotometry" set forth three methods for measuring DOI. The three test and measurement methods are Method A, Method B and Method C. ASTM D 5767 – 95 explains that "[t]he scale values obtained from the alternative methods cited do not agree" thereby effectively explaining that use of Methods A, B, and C cause different results.

18. GM4348M, June 2005, entitled "Painted Parts Appearance Requirements" describes the surface appearance and quality requirements for exterior painted parts. Section 3.1.5 lists the approved DOI inspection devices as "ATI Industries-Model 1864 from ADC;" "BYK-Gardner-Model GB 4816;" "Hunter Dor-l-Gon, or GlowBox™." This standard was superseded by GMW15777, August 2011.

19. GM 9101P, January 1991, entitled "Test for Evaluating Paint Film Distinctness of Image" is the GlowBox™ Model GB 11-8GM DOI meter testing procedure that describes an instrumental method for evaluating the DOI of automotive paint film surfaces within a testing laboratory. Evaluation of appearance by this DOI meter involves the projection of various sized images onto a painted surface. The image forming patterns, called Landolt rings, are projected from a fluorescent light box at a specified distance of 100 mm (10 cm) over the sample under examination. By assigning a value of 100 to the smallest set of rings and a value of 90, 80, 70, 60, 50, 40, 30, 20 and 10 to progressively large ones, a rating scale is obtained which can be used to evaluate the DOI of the painted surface. The test operator assigns a DOI value for the sample based on the smallest Landolt ring that is clearly discernable in the reflected image. Due to differences which exist in visual acuity between different operators, it is necessary that a control

standard be made by the operator with an assigned DOI value of 80 and used to standardize the readings. The assignment of the DOI value using the GM 9101P, January 1991 procedure necessarily involves some degree of subjective judgment on the part of the operator.

20. GMW15777, August 2011, supersedes GM 4348M and is entitled "Vehicle Exterior and Add-On Parts Paint Appearance Requirements." It describes the surface appearance and quality requirements for a painted vehicle exterior, add-on parts and primed parts. GMW15777, August 2011, lists "inspection devices" that "are approved for use in measuring the specified appearance attributes" (GMW15777, p. 2). For measuring DOI, the approved Optical Profilometer Method measuring devices are "BYK Gardner Wavescan Dual Models AW-4840; BYK Gardner Micro-wave-scan AW-4824; ATI Industries DOI Meter (Not Gage R and R Approved)."

21. The asserted patents provide no description as to which methods, devices or standards to use for evaluating DOI. This information is required, however, because the use of different methods, devices or standard can provide differing DOI values for a given sample.

Executed this 30<sup>th</sup> day of September, 2016, in The Villages, Florida.

*Cynthia A. Gosselin*



# Exhibit 1

# Cynthia Gosselin, PhD

EMAIL: [gosselincynthia4@gmail.com](mailto:gosselincynthia4@gmail.com)  
PHONE: 812.552.3002

ADDRESS: 2164 Evans Prairie Trail  
The Villages, FL 32163

## » SUMMARY OF CORE SKILLS

With more than 30 years of international technical and leadership experience in the materials engineering field coupled with in-depth knowledge of technologies for metallic and nonmetallic coil coatings, I thrive on delving into new avenues of learning, commercializing new products, solving complex problems and driving quality improvement. Colleagues describe me as a strong leader who demands excellence and hard work — from them and myself — but who won't hesitate to jump in and remove roadblocks. Additionally, as a holder of process patents for the application of removable and permanent thin film organic coatings and diesel emission components, I am fully dedicated to developing, testing and launching revolutionary new products and technologies and assisting others in understanding how to utilize those initiatives within their strategic objectives.

## » EXPERIENCE

### COATINGS UNLIMITED CONSULTING, LLC. | Florida (Current)

#### President

Provide materials engineering and failure analysis consulting services to the coil coating, steel, aluminum, metallic and nonmetallic coating and affiliate customer industries.

### THE ChemQuest GROUP INC. | Florida (Current)

#### Senior Consultant

Work within ChemQuest teams to provide strategic management consulting services within in the specialty chemicals market with specific emphasis on business strategy, technology and development mergers, technical roadmaps, decision and risk analysis, application process technology and independent evaluations.

### TECCOAT | Charlotte, NC (2013–2015)

#### Director of Emerging Technology

Evaluated unique non-chromium pretreatment and passivation technologies to move them toward full commercialization, emphasizing cooperative application and analysis projects with paint companies and steel mills.

- Led a study with three separate paint companies that established confidence in the performance of the non-chromium pretreatment when coupled with SMP and PVDF paint systems
- Coordinated a successful coil paint line trial with a major steel company whereby, for the first time, three non-chromium pretreatments were successfully applied to 400 series stainless steel by conventional means
- Authored and presented a technical paper entitled "Mill Applied Coatings: The Next Generation" at the Galvanizers Association 2014 meeting and at the Materials Science and Technology (MS&T) 2014 Conference
- Completed comprehensive data-driven testing, analysis, material characterization and performance evaluation of the existing chromium bearing product line for new applications within the construction market
- Led the launch of the company's website, print collateral and trade show displays, resulting in numerous product inquiries outside of normal customer channels and higher visibility and credibility within the industry

### FIRST AMERICAN RESOURCES COMPANY, LLC | Mableton, GA (2011–2013)

#### Technical Director

Led a six-person team responsible for all product quality, claim resolution, vendor initiatives, new product development, laboratory testing and manufacturing improvements.

- Introduced a new quality system that included nonconforming product, customer issues, root cause analysis, internal and external corrective actions and product rework/reapplication

## » TECHNICAL KNOWLEDGE AND QUALIFICATIONS

- Coil Coating
- Prepainted and Postpainted Steel and Aluminum
- Materials Science and Engineering
- Research and Development
- Pretreatment Technology
- Quality Assurance/Corrective/Preventative Actions
- Laboratory Management
- Claims and Warranty Root Cause Analysis
- Technical Program Management
- Emerging Market Technical Resource Development and Integration
- Business Strategy Development
- Product Introduction
- Customer Service
- Six Sigma Certification
- Officer in American Society for Testing Materials (ASTM) International

- Improved the response time for the analysis and disposition of internal nonconforming product from months—sometimes even years — to just days  
Provided the technical and quality system response to key customers, improving root cause analysis and response time by using Six Sigma tools, resulting in 75%–80% reduction in deficient material notifications and repeating issues
- Established streamlined guidelines and working platforms for vendors to address issues or make recommendations leading to an 80% reduction of nonconforming incoming product and 100% timely vendor claim resolution
- Led a plant wide time-sensitive ISO recertification initiative involving RACI action items for all key personnel, resulting in a successful audit and sustained systemic improvements
- Initiated, improved and/or authored documentation of line trials, quality/testing procedures, external communications and experimental results
- Initiated an experimental silane pretreatment feasibility study analyzing product performance from two vendors
- Assumed technical responsibility for an urgent whole-scale PVC paint vendor change, driving the development of product from the new vendor using line run analysis, written updates, regular conference calls and consistent technical evaluation and communication of expectations
- Provided paint system options to sales for new products and directed customer trials

#### **CUMMINS INC/CUMMINS EMISSION SOLUTIONS | Columbus, IN (2005–2011)**

##### **Program Leader: Emerging Market Strategic Technical Resource Development**

- Launched an on-site pilot program in India to accelerate product development capability within a design-house organization. Provided technical guidance and sponsored Six Sigma projects for the associated components developed for BRIC countries.

##### **Program Leader: Diesel Exhaust Fluid Doser Component Development**

- Directed a six-person technical team in a European supplier-collaborative development of the Airless DEF Doser System for the multimillion dollar 2010 EPA and Euro IV/China Mid-Range and Heavy-Duty engine SCR aftertreatment launches. This development resulted in a successful launch and the lowest warranty exposure for engine emission components to date in spite of a significant supplier change one year into the three year program.

##### **Technical Advisor: Warranty Analysis Leader for Exhaust Aftertreatment Systems**

- Implemented a worldwide warranty analysis process for the Emission Solutions Business Unit to service the 2006 Euro IV and 2007 EPA (engine) launches. This involved both in-depth technical knowledge development and sensitivity to worldwide cultural nuances around problem solving and warranty implementation.

##### **Systems Integrator: Engine and Aftertreatment (Exhaust) Systems**

- Worked with a non-traditional coatings supplier to identify and develop a corrosion resistant coating for cast aluminum engine intake systems.

##### **Business Unit Materials Engineering Functional Excellence Representative**

- Provided materials selection guidance around properties, performance and world- wide regulatory standards
- Evaluated offshore steel against required specifications and recommended alternatives
- Coordinated and published welding specifications between UK and US manufacturing sites for process improvements

#### **ARVINMERITOR (formerly Arvin Industries — Air and Emissions Technologies) | Columbus, IN (1999–2005)**

##### **Chief Engineer: WW Materials Engineering Laboratory (Columbus, IN and Warton, UK)**

- Directed the evolution of the Materials Laboratory from a solely manufacturing/service organization into an analytical Materials Engineering independent laboratory utilized internally and externally – ultimately generating income for the Technical Centers.
- Mentored lab personnel allowing three teams to meet technical and quarterly budgetary objectives leading to a metric based bonus program. Established flextime, resulting in extended time laboratory coverage without increasing personnel. All Materials Lab nominees won at least one President's Innovation and Achievement Award. Several first and second place international awards were also won during IMS Metallographic competitions.

#### **Arvin Industries — Rollcoater, Inc. | Columbus, Indiana (1998–1999)**

##### **Technical Manager: Technical Service and Claims**

- Managed a three-plant organization responsible for analyzing and determining responsibility for internal and external claim issues associated with prepainted steel and aluminum.

- Mentored lab personnel allowing three teams to meet technical and quarterly budgetary objectives leading to a metric based bonus program. Established flextime, resulting in extended time laboratory coverage without increasing personnel. All Materials Lab nominees won at least one President's Innovation and Achievement Award. Several first and second place international awards were also won during IMS Metallographic competitions.
- Settled outstanding claims with suppliers and customers as far away as Singapore, which resulted in actually recovering money owed - \$84,000 in one instance and no further claims in another.

AK STEEL COMPANY (formerly Armco Steel Company) | Middletown, Ohio (1982–1998)

#### Increasing Engineering Roles culminating in Supervising Senior Staff Engineer – Non-Metallic Coatings

- Directed an eight-person laboratory within Research and Technology responsible for product development of organic and metallic coil coated steels
- Averted major business loss by solving the cause of painted body panel problems at Ford Kansas City. This allowed the company to retain a multiyear contract for exposed electrogalvanized steel.
- Averted customer shutdown through laboratory and process analysis of an elusive surface corrosion issue on zinc-nickel electrogalvanized body panel steel coils subsequently toll coil-coated with a thin film organic.
- Benchmarked fuel tank field corrosion studies and correlated long-term material behavior with actual field service
- Developed a non-destructive method for evaluation of phosphate pretreatment on assembled vehicles in cooperation with K. Sabo at Honda of America
- Implemented and commercialized A-1DURASTEEL for Japanese transplant exposed automotive market
- Developed products and provided technical assistance to manufacturing and external customers in the areas of prepainted steel, surface treatments, adhesive technology and lubricants

#### » INDUSTRY LEADERSHIP, AWARDS AND RECOGNITION

- Currently serving as the Chairman of Committee D01 and an officer in Committee A05 for the American Society for Testing and Materials (ASTM) authoring *Carbon, Stainless, Metallic-Coated and Prepainted Coil Coated Steel Specifications*
- Received the ASTM A05 "Award of Appreciation" in 2014
- Authored several ASTM liaison articles for *Coil World Magazine*
- Conducted internal and external technical presentations (First American WW Coil Coating Conference, NCCA, ASTM)
- Served on Arvin Industries Technology Board/Arvinmeritor Engineering Council and as the industrial partner to the Cornell University Ford Motor Co. Future Truck Program team
- Served as a member of the original IUPUC Metallurgical Engineering Department Industrial Advisory Board
- Served as a member of the Industrial Advisory Board for the University of Cincinnati Department of Materials Science and Chemical Engineering
- Earned oral presentation awards from the Society of Automotive Engineers for "Development of a One-Coat Organic as a Replacement for Conventional Two-Coat Composite Systems on Zinc Nickel" (SAE Technical Paper Series 930747) and "Non-Destructive Replication Technique for the Examination of Phosphate Crystal Morphology on Vehicle Assembly Lines" (SAE Technical Paper Series 910295)
- Earned two process patents for coil applied thin film organic coatings and one patent for diesel exhaust fluid component development

#### » EDUCATION

**Massachusetts Institute of Technology**  
Cambridge, Massachusetts  
Certificate, Systems Design  
and Management, 2005

**University of Cincinnati**  
Cincinnati, Ohio  
PhD, Materials Science, 1982  
MS, Materials Science, 1979

**Rensselaer Polytechnic Institute**  
Troy, New York  
BS, Materials Engineering, 1977

PATENTS, PUBLICATIONS AND  
REFERENCES AVAILABLE UPON REQUEST